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ABSTRACT

Answer to how long it takes to get a junior college (2-year) degree; the percentage of the total enrollment who drop out without completing one hour for credit; the average number of hours taken, or completed, by a student; and the percentage of students expected to complete one quarter successfully provided the central themes for this study. The answers were obtained by summarizing 50,000 data records for 8,000 students on grades and number of quarters completed. An IBM 1130 computer was used. Two matrices were constructed to report the summarized data. The first consisted of the quarters from fall 1966 through summer 1971 (20 quarters) and total hours earned with a range from 0 through 14. The second matrix showed students who earned from 90 hours through 108 hours. The latter proved the most useful. Analysis of these data provided the following answers: (1) it took 8.16 quarters to get a junior college degree; (2) over the five-year period studied, 18.32% of the enrolled students dropped out without completing one hour for credit; (3) the average number of credit hours taken was 10.23 and the average number completed was 8.51; and (4) one can expect 82.73% of the enrolled students to complete one quarter successfully. (AL)

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TALLAHASSEE COMMUNITY COLLEGE

Office of Institutional Research

LENGTH OF RESIDENCE

FOR A JUNIOR COLLEGE DEGREE

JC 710 259

Report No. 18
December 1, 1971
Archie B. Johnston

UNIVERSITY OF CALIF.
LOS ANGELES

DEC 20 1971

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

Tallahassee Community College
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TALLAHASSEE, FLORIDA 32304

December 1, 1971

LENGTH OF RESIDENCE FOR A JUNIOR COLLEGE DEGREE

Introduction

One of the most frequently asked questions by prospective students and/or their parents - and more recently by laymen and legislators - is, "How long does it take to get a junior college (two year) degree?" The question is not as strange as it may sound at first. Theoretically, it should take two years to get a junior college degree at six academic quarters of fifteen course hours per quarter (In Florida, fifteen course hours is equated to one Full-Time-Equivalent student). Actually, at the Tallahassee Community College (TCC) we have determined it may take as few as six quarters or more than eighteen. We have one student who has been with us for 18 of our 20 quarters of operation and another student who has amassed a total of 154 academic hours; neither of them has graduated and both are enrolled this quarter.

Several other questions undertaken by this study are related to the total number of students who enroll each quarter. How many of the total enrollment drop out without completing even one hour for credit? What is the average number of hours taken, or completed, by a student? What percent of students may be expected to successfully complete one quarter? After listening to much speculation, and little fact, this researcher undertook the present study to obtain data for objective answers.

When our college began operation, it was assumed that we would eventually obtain the use of a computer so we immediately established

a punched card system of registration and student record keeping. A class card containing course name, course number, section number, academic quarter and year was produced for each student space allotted to every class. At the time of registration, the student's name and student number (we use Social Security Number as a student number) were cut into the class card. Likewise mid-term and final grades were recorded in the same card. All cards are maintained in student number order so it is now possible to retrieve the entire academic history of any student who has ever enrolled at TCC. By the close of Summer Quarter 1971, we had collected over 50,000 cards representing almost 8000 individual students and had achieved our machine goal through shared use of an IBM 1130 Computer.

The head of our programming department, Mr. L. Mitchell Davidson and his capable assistant Miss Marilyn Collar, the first graduate of our Data Processing Program, wrote a number of computer programs for data analysis. The resulting analyses are attached to this study in the form of Tables.

Class cards for each student were edited to count only those courses for which the student received a satisfactory grade for credit. Courses for which a failing, audit or withdrawal grade was recorded were not included as they do not count toward graduation. Certain other courses which are college requirements but are not counted in the credit load, e.g., Physical Education, were included in the study in the likely event that other colleges may allot them credit toward graduation.

The total passing hours earned per academic quarter was recorded for each of the 7714 students. A resulting 155 page computer printout, too large to be included with this paper, was then summarized within a

matrix of quarters from Fall 1966 through Summer 1971 (20 quarters) and total hours earned with a range from 0 through 154. Within each cell was recorded the number of students belonging in both of its categories. Totals were not cumulative so each student is recorded only in his final cell, i.e., if a student earned 51 hours in three quarters, he is not shown in quarters 1 or 2.

A second matrix was developed which recorded only the students who earned from the required 90 hours for graduation through 108 hours. This matrix identifies those students who reached the 90 hours or more in a given quarter. A student may have earned a few hours short of graduation, then in his final quarter added more to make a full load or to include an elective or so. If he continued beyond that quarter, as a number have, he was not counted again. This matrix provided us with the best data for the analysis on residence duration.

Findings

Quarters in Residence

From the starting date in Fall 1966 through the Summer of 1971, it has taken an average of 8.16 quarters to complete the 90 quarter hours required for graduation (Table 1). Of the 429 graduates during this period who began their college career at TCC, 359 earned more than the 90 hours by their final quarter, with the maximum being 108 hours. Over-all average time for these students was 8.19 quarters. Their achievements in cells of fifteen hour blocks are shown in Table 2. As a consequence, we may answer the basic question by stating that, "On the average it takes about eight quarters to complete the junior college degree requirements, thus if you continue attending straight through without missing a quarter, you should complete the 90 hours in two years. If you plan to skip the summer quarters, it will take about three years."

One student, for whom we plan a special recognition at graduation, has been with us since the third quarter of our operation and is still working toward her degree After 18 consecutive quarters without missing a month or failing a quarter, she now has 86 hours and will soon graduate. Another student has amassed a total of 154 quarter hours of satisfactory work in thirteen quarters on our campus. She was close to graduation when we opened a new occupational program which appealed to her and she transferred to the new field even though it meant a loss of time.

Enrollment Analyses

Over the five year period our total enrollment of 25,942 students (Table 3) represents 7,714 different individuals of whom 6,301 (81.68%) successfully completed at least one credit hour (Table 2). The 1,413 students who either failed or withdrew without completing a course are classified as unsuccessful and are considered initial dropouts. As an indication of our growth, it is noted that our enrollment for Fall 1971 quarter is 2,556 or 82 more than the total of all four quarters of our first year of operation.

Total Student Hours Registered

The total number of student hours registered (Table 4) reflects the steady growth of our college. Although the enrollment percentage change between quarters has not yet settled into a perfect pattern, we now have a yardstick accurate enough to make "ball-park estimates."

Average Student Hours Registered

By dividing the total student hours registered (Table 4) by the total students registered (Table 3) we are able to calculate the average student hours registered (Table 5) each quarter. These enrollment

figures are entered at the close of Drop and Add period at the start of each quarter. This, when used with other data, gives us a rough idea of what our overall teaching load may be.

Students Successfully Completed

The data for this matrix (Table 6) were obtained by tabulating only those students who passed at least one satisfactory hour that quarter. We have deleted those who withdrew - whether passing or failing at the time of withdrawal - those who were dropped, or received Audit, Incomplete, Unsatisfactory of Failing grades in all courses. While not wishing to enter a philosophical discourse about the meaning of success or failure, these are the criteria used in this study.

Total Student Hours Earned

Entries for total student hours earned was obtained from individual grade reports as one of the reportable items is "Hours Earned". Only grades A, B, C, D and S are counted since Withdraw Audit, Incomplete, Unsatisfactory and Failed grades do not count toward "Hours Earned".

Average Student Hours Earned

Here we found an answer to another of our original questions, "What is the average number of hours completed by our students?" Again the consistency is noteworthy with an average of 8.51 hours per student satisfactorily earned per quarter (Table 8). Were it not for the Summer quarters, the variation from quarter to quarter would be negligible.

Percent of Successful Students

Table 9 could almost be used as a probability of success table. We can fairly safely estimate that a student has eight chances in ten for successfully completing any given quarter. He has a somewhat lesser chance for success during the Summer quarter, but that may be the result

of having decided to take a vacation after all with a concurrent withdrawl from college. This observation must in no way be construed as a limitation upon success but merely a result of an analysis of the data collected to date. We all realize the fallacy of applying statistics to an individual case.

SUMMARY

Now we have objective data behind our replies to the initial questions posed at the start of this paper:

1. How long does it take to get a junior college degree? Ans: 8.16 quarters

2. How many drop out without completing one hour for credit? Ans: Over the five year period studied it was 18.32%

3. What is the average number of hours taken (10.23) or completed (8.51)?

4. What percent of students may be expected to successfully complete one quarter? Ans: 82.73%

PREDICTIVE USES OF STUDY DATA

One does not (or should not) collect data just for the sake of collecting or for the sole purpose of measuring what has been done in the past but rather collect as a basis for improvement or prediction. As a general rule, faculty is interested primarily in improvement and administration primarily in prediction. We have developed some rather accurate prediction models which we use on our small computer (IBM 1130) for forecasting student enrollments during a coming ten-year period.

The three most frequently used models utilize programs written for straight-line, second degree and exponential equations. Our preference is for the second degree equation and we have been able to forecast

within an acceptable standard error. By substituting any mathematical series, e.g., student enrollments for Fall, 1966, 67....we can obtain a ten-year forecast. The more years of actual data, the more accurate the prediction. Forecasts can be, and are, done for individual departments or for the entire college.

Table 1

QUARTERS IN RESIDENCE

Hours Earned	Quarters									
	6	7	8	9	10	11	12	13	14	Average
90	9	23	16	8	5	5	2	1	1	8.16
91	6	20	16	7	8	2	2	-	2	8.27
92	5	7	17	12	5	3	-	-	-	8.29
93	8	14	20	5	6	2	1	1	1	8.14
94	5	25	15	11	5	2	-	1	-	7.95
95	1	9	13	5	2	1	1	2	-	8.44
96	-	10	13	2	-	-	-	-	-	7.68
97	-	4	2	9	1	-	-	-	-	8.44
98	-	3	6	-	1	-	-	-	-	7.90
99	-	3	1	2	3	1	1	-	-	9.09
100	-	1	5	1	4	1	-	-	-	8.92
101	1	4	3	1	1	-	-	-	-	7.70
102	-	1	2	-	-	-	-	-	-	7.67
103	-	-	1	-	-	-	-	-	-	8.00
104	-	-	-	-	-	-	-	-	-	0.00
105	-	1	-	-	1	-	-	-	-	8.50
106	-	-	-	-	-	-	-	-	-	0.00
107	-	-	-	-	-	-	-	-	-	0.00
108	-	-	-	1	-	-	-	-	-	9.00
							Overall Average			8.19

Table 2

HOURS EARNED BY QUARTER

Hours Earned	Quarters in Residence																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Total
0	1413														(Unsuccessful)				1413
01-15	1920	698	284	72	22	1	-	-	-	-	-	-	-	-	-	-	-	-	2997
16-30	49	331	347	173	80	41	23	11	2	-	-	-	-	-	-	-	-	-	1057
31-45	-	25	330	204	107	42	28	25	12	10	5	2	1	-	-	-	-	-	791
46-60	-	-	27	174	112	82	43	15	11	10	7	2	1	1	4	1	-	-	490
61-75	-	-	-	25	59	83	55	36	14	8	7	6	1	3	-	1	-	-	298
76-90	-	-	-	-	9	64	100	44	21	15	13	8	3	2	2	1	-	1	283
91-105	-	-	-	-	-	23	89	112	49	35	16	8	8	3	2	1	-	-	346
106 +	-	-	-	-	-	-	-	2	4	6	7	10	4	4	1	1	-	-	39
Total	3382	1054	988	648	389	336	338	245	113	84	55	36	18	13	9	5	-	1	7714
															(Unsuccessful)				1413
															(Successful)				6301

Table 3

TOTAL STUDENTS ENROLLED

YEAR	FALL	WINTER	SPRING	SUMMER	TOTAL
1966-67	698	688	605	483	2474
67-68	1298	1310	1211	816	4635
68-69	1718	1622	1452	906	5698
69-70	1846	1649	1509	1035	6039
70-71	2100	2047	1838	1111	7096
TOTAL	7660	7316	6615	4351	25942

Table 4

TOTAL STUDENT HOURS REGISTERED AND
PERCENT OF PREVIOUS QUARTER ENROLLMENT

	FALL (F)	PERCENT (W/F)	WINTER (W)	PERCENT (SP/W)	SPRING (SP)	PERCENT (SU/SP)	SUMMER (SU)	TOTAL
1966-67	7913	(95.12)	7527	(84.92)	6392	(58.75)	3755	25587
67-68	14339	(100.33)	14386	(87.09)	12529	(50.66)	6342	47586
68-69	18434	(94.63)	17445	(88.74)	15480	(52.24)	8086	59445
69-70	19132	(89.78)	17177	(90.57)	15558	(56.29)	8757	60624
70-71	22005	(96.66)	21270	(90.08)	19159	(50.03)	9585	72019
TOTAL	81823	(95.09)	77805	(88.82)	69108	(52.85)	36525	265261

Table 5

AVERAGE STUDENT HOURS REGISTERED

YEAR	FALL	WINTER	SPRING	SUMMER	TOTAL
1966-67	11.34	10.94	10.57	7.77	10.34
67-68	11.05	10.98	10.34	7.77	10.27
68-69	10.73	10.76	10.67	8.92	10.43
69-70	10.36	10.42	10.31	8.46	10.04
70-71	10.48	10.39	10.42	8.63	10.15
TOTAL	10.68	10.63	10.45	8.39	10.23

Table 6

STUDENTS SUCCESSFULLY COMPLETED

YEAR	FALL	WINTER	SPRING	SUMMER	TOTAL
1966-67	572	578	525	343	2018
67-68	1151	1172	1040	632	3995
68-69	1459	1346	1187	697	4689
69-70	1472	1367	1293	812	4944
70-71	1712	1733	1536	836	5817
Total	6366	6196	5581	3320	21463

Table 7

TOTAL STUDENT HOURS EARNED

YEAR	FALL	WINTER	SPRING	SUMMER	TOTAL
1966-67	4493	4675	4322	2455	15945
67-68	9721	10302	9223	4212	33458
68-69	12549	11749	10498	5110	39906
69-70	12458	11925	11400	6097	41880
70-71	15060	15514	14028	6794	51396
Total	54281	54165	49471	24668	182585

Table 8

AVERAGE STUDENT HOURS EARNED

YEAR	FALL	WINTER	SPRING	SUMMER	TOTAL
1966-67	7.86	8.09	8.23	7.16	7.90
67-68	8.45	8.79	8.87	6.66	8.37
68-69	8.60	8.73	8.84	7.33	8.51
69-70	8.46	8.72	8.82	7.51	8.47
70-71	8.80	8.95	9.13	8.13	8.84
Total	8.53	8.74	8.86	7.43	8.51

Table 9

PERCENT OF STUDENTS
SUCCESSFULLY COMPLETING EACH QUARTER

YEAR	FALL	WINTER	SPRING	SUMMER	TOTAL
1966-67	81.95	84.01	86.78	71.01	81.57
67-68	88.67	89.47	85.88	77.45	86.19
68-69	84.92	82.98	81.75	76.93	82.29
69-70	79.74	82.90	85.69	78.45	81.87
70-71	81.52	84.66	83.57	75.25	81.98
Total	83.11	84.69	84.37	76.30	82.73